

with the small instrument to be much larger than with the present Transit-Circle; and this is not the case. There is one cause which has occurred to me as a possible explanation of the observed discrepancy. The irregularities of the lunar surface subtend very sensible angles at the Earth; and these irregularities must present different aspects on the limbs when viewed under the different illuminations at Full and at quadrature; and the measured differences would most probably differ considerably with such very different instrumental means as those employed 1750-1815 and those in present use. There is an old transit instrument, with an aperture of an inch and a half, at the Radcliffe Observatory. I feel much tempted to mount the instrument and try whether there really does exist a difference between the effective semi-diameters near Full and quadrature sufficient to account for a discrepancy of  $2''\cdot6$  in the values of the coefficient of the parallactic inequality as determined from observations with such an instrument and our present Transit-Circle. If such a discrepancy could be proved to exist, we should be able to infer with certainty the existence of some smaller correction in the same direction for our existing instruments; but if no such discrepancy should be found between the results, then there must be some very important error in the discussion of the early Greenwich results to have led to this constant difference.

*On the Conjunctions of the Satellites of Uranus with each other, which may be observable from February to May 1882.* By A. Marth, Esq.

The following list is a continuation of that printed on p. 29, and contains the computed position-angles and distances, in reference to the centre of *Uranus*, of the satellites which pass one another, for the nearest even hours, Greenwich M.T., preceding and following the times of their conjunctions.

	Ariel.			Umbriel.			Titania.			Oberon.		
	G.M.T.	Pos.	Dist.	Pos.	Dist.	Pos.	Dist.	Pos.	Dist.	Pos.	Dist.	
1882.	h	°	"									
Feb.	1	12	—	192°6	13°0	198°7	17°2	—	"	—	"	
	14	—		193°2	14°9	199°3	15°4	—	—	—	—	
	16	—		193°7	16°7	200°0	13°5	—	—	—	—	
15	16	195°8	13°9	—		190°1	9°9	—	—	—	—	
	18	196°2	12°3	—		191°0	11°9	—	—	—	—	
	20	196°8	10°2	—		191°7	13°8	—	—	—	—	
18	14	—		194°9	21°0	196°6	23°8	—	—	—	—	
	16	—		195°1	21°3	196°8	22°2	—	—	—	—	
	18	—		195°3	21°1	197°1	20°5	—	—	—	—	

Dec. 1881.

## Satellites of Uranus.

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		Ariel.		Umbriel.		Titania.		Oberon.	
	G.M.T.	Pos.	Dist.	Pos.	Dist.	Pos.	Dist.	Pos.	Dist.
1882.	h.								
Feb.	20	12	195° 0'	15.2	"	"	"	190° 6'	13.1
	13	195° 1'	15.3	"	"	"	"	190° 9'	13.9
	14	195° 3'	15.2	"	"	"	"	191° 2'	14.8
	15	195° 4'	14.9	"	"	"	"	191° 4'	15.6
21	10	13° 3'	8.6	15° 3'	11.3	"	"	"	"
	12	14° 0'	11.2	15° 4'	8.9	"	"	"	"
27	16	193° 2'	7.2	196° 9'	10.4	197° 1'	16.1	"	"
	18	193° 9'	9.8	197° 6'	8.0	197° 4'	14.2	"	"
	20	194° 3'	12.0	199° 0'	5.4	197° 8'	12.2	"	"
	22	194° 6'	13.7	"	"	198° 4'	10.3	"	"
March	8	14° 8'	13.9	14° 3'	13.7	"	"	"	"
	20	14° 9'	14.9	14° 5'	15.6	"	"	"	"
9	16	—	—	15° 4'	18.6	13° 9'	15.4	"	"
	18	—	—	15° 5'	17.1	14° 0'	17.2	"	"
10	14	195° 9'	8.3	193° 5'	7.0	"	"	"	"
	16	196° 5'	5.4	194° 0'	9.5	"	"	"	"
12	18	—	—	14° 2'	9.8	16° 0'	15.6	13° 6'	14.1
	20	—	—	14° 4'	12.1	16° 2'	13.7	13° 8'	15.8
	22	—	—	14° 5'	14.2	16° 4'	11.7	13° 9'	17.5
17	8	194° 7'	8.0	—	—	195° 8'	10.2	—	—
	10	194° 8'	10.5	—	—	196° 0'	8.2	—	—
19	18	—	—	195° 0'	21.2	—	—	194° 7'	19.5
	20	—	—	195° 0'	20.8	—	—	194° 7'	21.2
21	8	—	—	14° 9'	17.0	15° 2'	18.3	—	—
	10	—	—	15° 0'	18.4	15° 2'	16.5	—	—
23	18	—	—	—	—	195° 0'	32.4	195° 0'	34.8
	20	—	—	—	—	195° 0'	33.1	195° 0'	33.6
	22	—	—	—	—	195° 0'	33.7	195° 0'	32.3
26	8	15° 0'	12.8	14° 9'	16.9	—	—	15.2	16.5
	10	15° 0'	14.2	14° 9'	15.2	—	—	15.1	18.2
	12	15° 0'	15.0	14° 9'	13.2	—	—	15.1	19.8
29	8	14° 8'	12.4	15° 4'	9.9	—	—	—	—
	10	14° 7'	10.3	15° 3'	12.2	—	—	—	—
April	4	14	194° 7'	13.4	195° 7'	10.8	—	—	—
	16	194° 6'	11.7	195° 5'	13.0	—	—	—	—
8	12	14° 3'	10.3	—	—	—	—	17.6	10.2
	14	13° 9'	7.7	—	—	—	—	17.2	12.0
9	8	—	—	195° 0'	21.0	195° 9'	19.3	—	—

## Mr. Plummer, On the Motion

## XLII. 2,

G.M.T.	Ariel.		Umbriel.		Titania.		Oberon.	
	Pos.	Dist.	Pos.	Dist.	Pos.	Dist.	Pos.	Dist.
1882.								
April 9	h.	°	"	°	"	°	"	"
	10	—	194.9	21.1	195.7	21.0	—	—
	12	—	194.8	20.9	195.6	22.7	—	—
13	8	14.7	14.4	—	17.1	11.5	—	—
	10	14.5	13.1	—	16.7	13.4	—	—
	12	14.2	11.3	—	16.4	15.3	—	—
	18	—	—	—	16.0	20.6	13.4	20.9
	20	—	—	—	15.8	22.2	13.2	19.3
19	16	—	—	—	194.7	33.8	194.1	34.6
	18	—	—	—	194.7	33.3	194.0	33.4
	20	—	—	—	194.6	32.7	193.9	32.2
20	10	16.1	9.5	13.5	11.8	—	—	—
	12	15.7	11.7	13.0	9.5	—	—	—
23	8	14.8	14.9	16.2	13.3	—	—	—
	10	14.6	14.3	15.9	15.2	—	—	—
25	10	16.5	8.3	—	12.1	12.3	—	—
	12	15.9	10.7	—	11.5	10.4	—	—
26	12	—	193.8	14.9	197.4	13.8	—	—
	14	—	193.5	13.0	197.0	15.7	—	—
	16	196.6	7.9	193.1	10.8	—	—	—
	18	196.0	10.4	192.4	8.5	—	—	—
May 4	8	196.0	10.9	—	—	—	190.8	13.1
	10	195.6	12.8	—	—	—	4.11	1.10

The observations of these conjunctions may serve, not only as test-observations for the theories of the motions of the satellites, but also as tests to show the power of the most powerful telescopes of the present day; and, as such conjunctions will not occur again till the year 1923, it is to be hoped that the opportunities of the coming season will not be neglected. I need scarcely add that this is also the best time for settling the question whether a fair determination of the ellipticity of *Uranus* is or is not within the reach of the best micrometrical measurements.

*On the Motion of the Companion of Sirius.*  
By W. E. Plummer, Esq.

The history of this interesting system is too well known to need any mention here, but the recent publication in a collected form of the accurate series of observations made at the Washing-